

Explanatory Notes for Preparation of District Disaster Management Plan (DDMP)

As a supplement to the DDMP framework issued by NDMA, these explanatory notes on the preparation of DDMP provide a guide to risk-informed planning and decision making to help planners examine hazards or threats and produce integrated, coordinated and synchronized plans. When accomplished properly, planning provides a methodical way to engage all stakeholders in thinking through the life cycle of a potential crisis, determining required capabilities and establishing a framework for roles and responsibilities, taking end objectives into consideration.

This guide is designed to help planners navigate the planning process through a mix of “instructions describing the content that each section might contain and some sample contents” for sections defined in DDMP framework.

This Guide recognizes that many districts across the country have already developed DDMPs that address various emergency management operations. Therefore, this document suggests that the next act of all DDMP is to follow these notes and framework. This guide also recognises that different districts face different hazards and the resources available are not uniform. Hence, this may be used as a framework and not as a template. Suitable changes, as required, may be made in the contents.

CHAPTER I: INTRODUCTION

Describe unique features of district under consideration with statements on hazards and their impacts on life and property.

Give / elaborate appropriate information in the following subsections:

- i. District Profile (Socio, economic, demographic, geographic, critical infrastructures, key resources)
- ii. District Administrative Set up
- iii. District Population profile

It is already recognised that it is possible to take preventive, mitigation, preparedness measures along with the capacity building of the stakeholders so that the negative impact of a disaster can be minimized. Hence, there is a need for good planning.

Under the DM Act 2005, it is mandatory on the part of District Disaster Management Authority (DDMA) to adopt a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary and expedient for prevention as well as mitigation of disasters. These processes are to be incorporated in the developmental plans of the different departments and preparedness to meet the disaster and relief, rescue and rehabilitation thereafter, so as to minimize the loss to be suffered by the communities and are to be documented so that it is handy and accessible to the general public.

1.1 Objectives and Goal of the Plan:

Section 31 of Disaster Management Act 2005 (DM Act), makes it mandatory to have a disaster management plan for every district. DDMP shall include Hazard Vulnerability Capacity and Risk Assessment (HVCRA), prevention, mitigation, preparedness measures, response plan and procedures. An indicative list with possible plan objectives is given below:

- i. To identify the areas vulnerable to major types of the hazards in the district.
- ii. To adopt proactive measures at district level by all the govt. departments to prevent disaster and mitigate its effects.
- iii. To define and assign the different tasks and responsibilities to stakeholders during the pre-disaster and post-disaster phases of the disaster.
- iv. To enhance disaster resilience of the people in the district by way of capacity building.
- v. Reduce the loss of public and private property, especially critical facilities and infrastructure, through proper planning.
- vi. Manage future development to mitigate the effect of natural hazards in the district.
- vii. To set up an Emergency Operations Centre at the District level to function effectively in search, rescue, response.
- viii. To develop the standardized mechanism to respond to disaster situation to manage the disaster efficiently.

- ix. To set up an early warning system so as to prepare the community to deal with the disaster and responsive communication system based upon fail-proof proven technology.
- x. To prepare a response plan based upon the guidelines issued in the State Disaster Management Plan so as to provide prompt relief, rescue and search support in the disaster affected areas.
- xi. To adopt disaster resilient construction mechanism in the district by way of using Information, Education and Communication for making the community aware of the need of disaster resilient future development.
- xii. To make the use of media in disaster management.
- xiii. Rehabilitation plan of the affected people and reconstruction measures to be taken by different govt. departments at district level and local authority.

The District Disaster Management Plan (DDMP) is the guide for achieving the objective i.e. mitigation, preparedness, response and recovery. This Plan needs to be prepared to respond to disasters with sense of urgency in a planned way to minimize human, property and environmental loss.

1.2 Scope of the Plan:

The scope of this plan, the entities (e.g., departments, agencies, PRIs, ULBs, private sector, NGOs, citizens) and geographic areas to which the plan applies need to be stated explicitly with identified role and responsibilities. The purpose statement need not be complex but should include enough information to establish the direction for the plan. The scope should include all disaster phases (Prevention, Preparedness, Mitigation, Response and Recovery), hazards addressed, area / district etc.

1.3 Authority and Reference:

Mention - references that form the legal basis for actions outlined in this Plan is in accordance with Sections 31 and 32 of the DM Act 2005. Include and cite the legal and administrative basis for evolution of the Plan and implementing DDMP including:

- i. Laws & Statutes
- ii. Executive Orders / Rules
- iii. Regulations
- iv. Formal agreement (MoU) – with utility service agencies, telecom service providers, manufacturers of different emergency resources etc.

1.4 Plan Development:

Steps in a collaborative planning process include – formation of team, understanding hazards, vulnerabilities and risk in the district, plan development (develop and analyse course of action, identify resources, identify information needs), plan preparation (write, review, approve and disseminate), plan implementation and maintenance (exercise, review, revise and maintain).

Planning Team:

There is no fixed format / composition for planning team, but integrating Emergency Service Function agencies into planning team would be useful.

An ideal team could be as given below -

- i. District Magistrate / District Collector (Chairperson)
- ii. Elected member of the district
- iii. DEOC coordinator / Manager (nominate him/her as plan coordinator)
- iv. District Fire Chief
- v. Head of the Primary agency supervising each ESF (Telecom, Public health, Agriculture, Power, Transport, Education, PWD, Food and civil supplies, Water supply and sanitation, Law and order, Information / Media)
- vi. Representatives from central agencies located in / around the district (Army/Navy/Air Force, Coast Guard, Port and fisheries, DDK, AIR, IMD and CWC etc.)
- vii. Representatives from major places of worships
- viii. Local NGOs / Corporate / CIKR

The best way to move forward is to constitute a **core team** composed of a department or office that was likely to be involved in most, if not all, responses. The five to seven most central departments are: the Fire and Police Chiefs, the Emergency Manager and the Planner (DDMO/DPO), Civil Surgeon and the Superintending Engineer / Executive Engineer (Public Works). Other agencies / members of community can be consulted on an SOS basis. The Core team should invite representatives from civil societies for consultation on specific components of the plan. The plan should not be just an administrative plan, but a plan for all stakeholders including citizens.

1.5 Stakeholders and their responsibilities

At State HQ level - the State Disaster Management Authority and the Office of the Commissioner of Relief (CoR), Revenue Department, are the major institutions in the State that deal with all the phases of disaster management. All the major line departments of the State Government and the emergency support function agencies converge into SEOC during disasters.

At the District level, District Disaster Management Authority, with the District Collector designated as Response Officer (RO), and other line departments at district HQ are responsible to deal with all phases of disaster management within district.

Other technical institutions, community at large, local self-governments, NGOs etc. are also stakeholders of the District Disaster Management Pan. The role of the stakeholders has been prepared with the sole objective of making the concerned organizations understand their duties and responsibilities regarding disaster management at all levels and accomplishing them.

The District Collector has the following duties:

- i. To facilitate and coordinate with local Government bodies to ensure that pre and post disaster management activities in the district are carried out.
- ii. To assist community training, awareness programmes and the installation of emergency facilities with the support of local administration, non-governmental organizations and the private sector.

- iii. To function as a leader of the team and take appropriate actions to smoothen the response and relief activities to minimize the adverse impact of disaster.
- iv. To recommend the Commissioner of Relief (CoR) and State Government for declaration of disaster.

Local Authorities have the following duties:

- i. To provide assistance to the District Collector in disaster management activities.
- ii. To ensure training of its officers and employees and maintenance of resources so as to be readily available for use, in the event of a disaster.
- iii. To undertake capacity building measures and awareness and sensitization of the community
- iv. To ensure that all construction projects under it conform to the standards and specifications laid down.
- v. Each department of the Government in a district shall prepare a disaster management plan for the district. The local authorities need to ensure that relief, rehabilitation and reconstruction activities in the affected area, within the district, are carried out.
- vi. Trust / Organisations managing Places of Worships & Congregation
 - a. Each establishment / organisation identified as “critical infrastructure and key resource”,
 - b. Including places of congregation in a district shall prepare “on-site” and “off-site”
 - c. Disaster management plan. Carry out mitigation, response, relief, rehabilitation and
 - d. Reconstruction activities.

Private Sector:

- i. The private sector should be encouraged to ensure their active participation in the pre-disaster activities in alignment with the overall plan developed by the DDMA or the Collector.
- ii. They should adhere to the relevant rules regarding prevention of disasters, as may be stipulated by relevant local authorities.
- iii. As a part of CSR, undertake DRR projects in consultation with district collector for enhancing district’s resilience.

Community Groups and Volunteer Agencies:

- i. Local community groups and voluntary agencies including NGOs normally help in prevention and mitigation activities under the overall direction and supervision of the DDMA or the Collector.
- ii. They should be encouraged to participate in all training activities as may be organized and should familiarise themselves with their role in disaster management.

Citizens:

It is the duty of every citizen to assist the District Collector or such other person entrusted with or engaged in disaster management whenever demanded generally for the purpose of disaster management.

1.6 How to use the Plan:

- i. Section 31 of DM Act 2005 makes it mandatory for every district to prepare a disaster management plan, for the protection of life and property from the effects of hazardous events within the district.
- ii. In significant emergencies or disasters, District Magistrate or the chairperson of DDMA will have the powers of overall supervision direction and control as may be specified under State Government Rules / State Disaster Management Plan guidelines.
- iii. The district EOC will be staffed and operated as the situation dictates. When activated, operations will be supported by senior officers from line departments and central government agencies; private sector and volunteer organizations may be used to provide information, data and resources to cope with the situation.
- iv. The DDMA may recommend for action under Sec 30 of DM Act.
- v. Facilities that have been identified as vital to operation of the district government functions have been identified.
- vi. The DM or his designee will coordinate and control resources of the District.
- vii. Emergency public information will be disseminated by all available media outlets through the designated media and information officer.
- viii. Prior planning and training of personnel are prerequisites to effective emergency operations and must be considered as integral parts of disaster preparations.
- ix. Coordination with surrounding districts is essential, when an event occurs, that impacts beyond district boundaries. Procedure should be established and exercised for inter district collaboration.
- x. Departments, agencies and organizations assigned either primary or supporting responsibilities in this document must develop implementation documents in order to support this plan.
- xi. When local resources prove to be inadequate during emergency operations, request for assistance will be made to the State or higher levels of government and other agencies in accordance with set rules and procedures.
- xii. District authority will use normal channel for requesting assistance and/or resources, i.e., through the District Emergency Operations Center (DEOC) to the State EOC. If state resources have been exhausted, the state will arrange to provide the needed resources through central assistance.
- xiii. The District EOC will coordinate with the State EOC, Agencies of the Govt. of India like IMD / CWC to maintain upto-date information concerning potential flooding, cyclones etc. As appropriate, such information will be provided to the citizens of the affected areas in the district.
- xiv. Upon receipt of potential problems in these areas, DEOC / designated officials will appropriately issue alert and notify action to be taken by the residents.
- xv. Disaster occurrence could result in disruption of government functions and, therefore, all levels of local government and their departments should develop and maintain procedures to ensure continuity of Government action.

It is necessary that for suo-moto activation of the agencies involved in the disaster management, the institutional trigger mechanism should be there so that every agency takes its assigned role at the time of such disaster. There will be three types of Trigger mechanism that will be set up depending upon the warning signals availability as mentioned below:

Warning Signal Available:

In such case the Govt. of India / State Govt. has authorized agencies generating such early warning signals; in case the matter is very urgent needing action at Block/Tehsil/Village levels, the alerts and action points will go directly to all concerned. Arrangements need to be in place to ensure prompt receipt of these signals and action thereon. After such warning/advisory received by the State Govt., the SEOC will communicate it to the DEOC urgently. The DEOC will communicate such warning to the departments at the district level. The information flow in such cases will be as follows:-

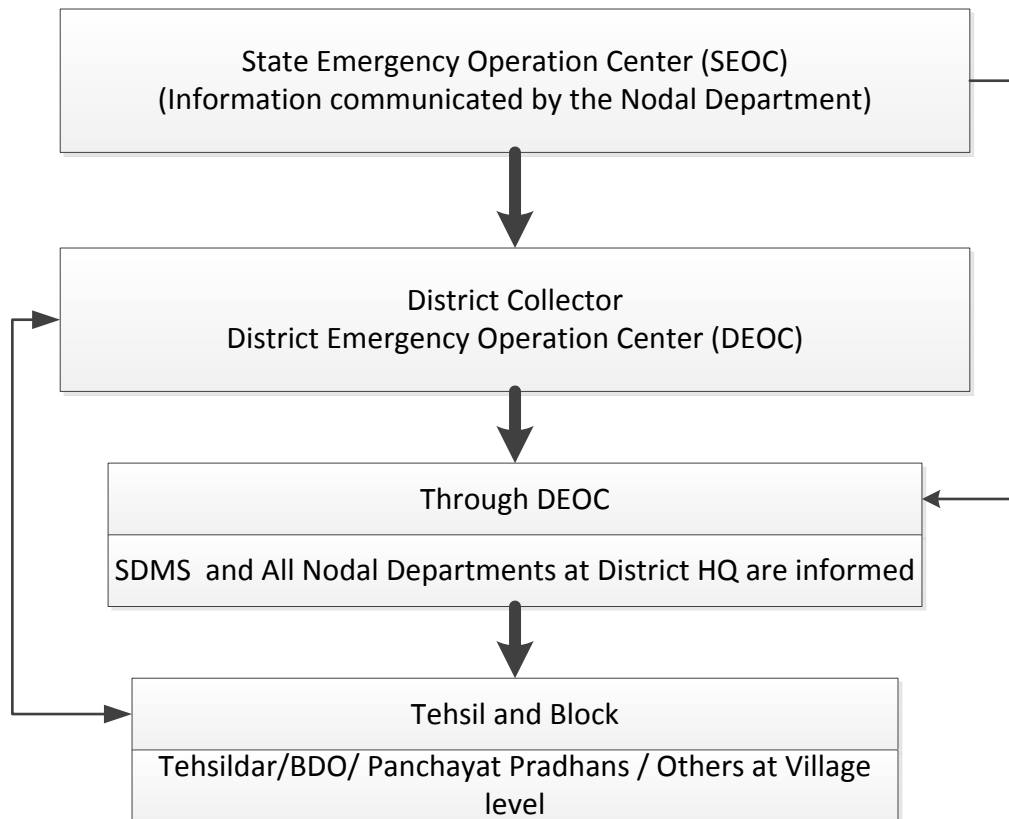


Figure 1: With warning Information flows from Top - Down

Without Early Warning Signal:

When disaster occurs without any early warning in that case the information starts from the place of incident through government agency or otherwise and the institutional mechanism in such cases will be as follows:-

- i. The concerned village will report to the Panchayat, block, police station/SDM/DM and the information will be sent to the Deputy Commissioner.
- ii. DDMA will assess the information and assess the disaster to be of the level L0, L1, L2 or L3.
- iii. DEOC will be activated and if required the SEOC will be kept at alert if assistance needed; otherwise information of the incident will be passed on to SEOC.

- iv. DDMA will convene the meeting of DEOC and plan the management of the disaster as Incident Response Plan.
- v. The respective Incident response teams will be rushed to the site for effective management.

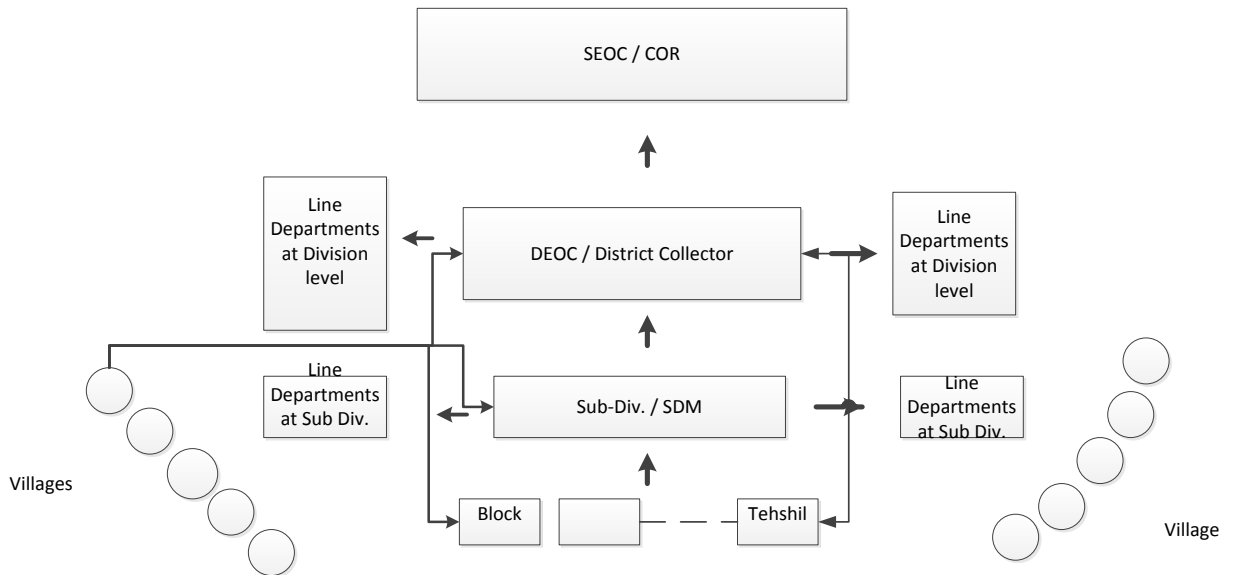


Figure 2: Without Warning – Information, generally, should flow from Bottom side – up but it is a crisscross scenario

The disaster response structure will be activated on the receipt of a disaster warning or on the occurrence of a disaster by the competent authority. The occurrence of a disaster may be reported by the concerned monitoring authority to the Commissioner of Relief/SDMA by the fastest means. The SDMA/SEC will activate all departments for emergency response including the State EOC, District EOC, police personnels and ERCs. In addition, they will issue instructions to include the following details:

- i. Exact quantum of resources (in terms of manpower, equipments and essential items from key departments/stakeholders) that is required.
- ii. The type of assistance to be provided.
- iii. The time limit within which assistance is needed.
- iv. Details of other Task/Response Forces through which coordination should take place.
- v. The State EOC, ERCs and other control rooms at the State level as well as district control rooms should be activated with full strength.

1.7 Approval Mechanism of the Plan:

As defined in Section 30 of DM Act 2005, DDMA shall act as the district planning; coordinating and implementing body for disaster management and take all measures for the

purpose of disaster management in the district in accordance with the guidelines laid down by the National Authority and the State Authority.

Accordingly, the District DM plan shall be prepared by the District Authority, after consultation with the local authorities and having regard to the National DM Plan and the State DM Plan.

1.8 Plan review and updation periodicity:

Training- After developing a plan, it must be disseminated and managers must be required to train their personnel so that they have the knowledge, skills and abilities needed to perform the tasks identified in the plan. Personnel should also be trained on the organization-specific procedures necessary to support those plan tasks.

Exercise the Plan - Evaluating the effectiveness of plan involves a combination of training events, exercises and real-world incidents to determine whether the goals, objectives, decisions, actions and timing outlined in the plan led to a successful response. The purpose of an exercise is to promote preparedness by testing polices plans and training personnel.

Revise and Maintain - Planning teams should establish a process for reviewing and revising the plan. Reviews should be a recurring activity. Review on an annual basis is considered minimum. It should be mandatory to consider reviewing and updating the plan after the following events:

- i. A major incident.
- ii. A change in operational resources (e.g., policy, personnel, organizational structures, Management processes, facilities, equipment).
- iii. A formal update of planning guidance or standards.
- iv. Each activation.
- v. Major exercises.
- vi. A change in the district's demographics or hazard or threat profile.
- vii. The enactment of new or amended laws or ordinances.

The responsibility for the coordination of the development and revision of the basic plan, annexes, appendices and implementing instructions must be assigned to the appropriate person(s).

It is recommended that a DDMP be **internally reviewed on a yearly** basis and either be updated or reaffirmed. The updates or reaffirmed document may also be used to summarize the accomplishments of the past year and help the administration to prioritize mitigation goals for the next year.

CHAPTER 2: HAZARD, VULNERABILITY, CAPACITY AND RISK ASSESSMENT

Planners need to **visualize various situations** based on the district profile and exposure to hazards. Analysis of “situation” will lead to prioritization of hazard and risks and define training, equipment and exercise requirements. A hazard analysis determines:

1. What hazard can occur in the district
2. How often is it likely to occur
3. What damage it is likely to cause
4. How is it likely to affect the district or part of the district
5. How vulnerable is the district to each hazard

There are five steps in the hazard analysis process:

- i. Identify hazards
- ii. Profile each hazard
- iii. Develop a plan for district
- iv. Determine vulnerability
- v. Create and apply scenarios

During the hazard analysis process, it is important to keep in mind that the hazard a community faces may change over time because of new mitigation measures, the opening or closing of facilities, local development activities or terrorist threats that were not considered before.

The **risk assessment** is, hence, the basis for **plan development**. The assessment helps the planning team decide what hazards or threats merit special attention, what actions must be planned for and what resources are likely to be needed. The analysis method inventory evaluates and provides loss estimates for assets deemed critical during the preparation, response and recovery phases of an incident.

Address major “natural and manmade” hazards that have or may affect that district, each hazard should be addressed and examined individually; the statistics should be examined at the district level and a summary of historical occurrences in the district, along with the probability of future occurrences.

Potential - safety, health, economy and building damages should be explained for each of the hazards and repetitive (historical) loss of properties noted and listed within this section. Existing “relief manuals” in each state is a good source of historical data with, of course, other documents like State’s flood manual etc.

A proper Hazard and Vulnerability Analysis will take time Thus, the DDMP should attempt to get this done as soon as possible. In the meantime, an estimation of vulnerabilities and risks may be done to draft an initial plan. There are *subjective methods* which can be used for identification of hazards and vulnerabilities and regional priority for their mitigation.

Steps to be undertaken for hazard analysis:

Obtain hazard information. Sources can be:

1. Local administration / State administration
2. India Meteorological Department (IMD) / Central Water Commission (CWC) / Survey of India
3. Ministry of Environment and Forests (MoE&F)
4. Survey of India
5. Indian Space Research Organisation (ISRO)
6. National Remote Sensing Centre (NRSC)

Developing a Hazard Profile:

A hazard profile should consider four factors:

1. Magnitude
2. Frequency
3. Duration
4. Speed of onset

Profile should be completed for each hazard the community or district is vulnerable to.

Hazard:
Potential Magnitude (% of the community that can be affected): Catastrophic: More than 50% Critical: 25 – 50% Limited: 10-25% Negligible: Less than 10%
Frequency of Occurrence: Frequently / Highly likely: Near 100% probability in next year Likely: Between 10-100% probability in next year or at least one change in next 10 years Occasional / Possible: Between 1-10% probability in next year or at least one chance in next 100 years Unlikely: Less than 1% probability in next 100 years
Seasonal Pattern:
Areas Likely to be Affected Most:
Probable Duration: Probable time of the year:
Potential Speed of Onset (Probable amount of warning time): <input type="checkbox"/> Minimal (or no) warning <input type="checkbox"/> 12-24 Hrs warning <input type="checkbox"/> 6-12 Hrs warning <input type="checkbox"/> More than 24 Hrs warning
Existing Warning System: Does a Vulnerability Analysis Exist? <input type="checkbox"/> Yes <input type="checkbox"/> No

Figure3: Hazard Profile Worksheet (*Parameters indicated under each category are based on the Global best practices which may vary from country to country*)

Creating a District profile:

After completing the hazard analysis process, it is necessary to combine hazard specific information with the profile of the community in the district to determine community's vulnerability to the risk.

Geography 1	Property 2	Infrastructure 3	Demography 4	Response Organisation 5
Major geographic features; Typical weather pattern	Numbers; Types; Ages; Building Codes; Critical facilities; Potential Secondary Hazard; (Popular Places of worships should be included)	Economic (telecommunication, electricity, transportation, energy etc.) and Social (health (hospitals), education (school, colleges etc.), places of worships (temples, Mosque, Church, places of religious congregations) and housing) infrastructures Utilities - Construction, Layout, access; Communication system - layout, features, backup; Road systems; Air and water support;	Population size, distribution, concentrations; Number of people in vulnerable zones; Special Populations; Animal populations	Locations; Points of Contacts; Facilities; Services; Resources;

Table 1: Key factors in Creating Community profile

After gathering information about community, develop the community district profile by plotting vulnerable areas on a district map.

Type of Information 1	Used in 2
Geography	Predicting risk factors and the impact of potential hazards and secondary hazard
Property	Projecting consequence of the potential hazards to the local area Identifying available resources
Infrastructure	Identifying points of vulnerability Preparing evacuation routes, emergency communication and projecting response and recovery requirements
Demography	Projecting consequence of disaster on population Disseminating warning and public information Planning evacuation and mass care
Response Organisation	Identifying response capabilities

Table 2: Use of Community factors in District Profile

Completing the Risk Analysis:

After completing the district profile, the next step is to quantify the community's risk by merging the information. Risk is the predicted impact that hazard would have on the people, services and specific facilities in the community. Quantifying risk enables district to focus on those hazards that poses higher threat to life, property and environment. Quantifying risk involves:

- i. Identifying the elements of the community that are potential at risk from specific hazard
- ii. Develop Digital elevation model
- iii. Develop response priorities
- iv. Assign severity ratings based on potential impact to life, essential facilities and Critical Infrastructure and Key Resources (CIKR)
- v. Compiling risk data into the community risk profile that shows the areas of the community that are at highest risk from hazard

In analyzing risks, it is helpful to develop the response priorities:

Priority 1: Life safety

Priority 2: Essential facilities

Priority 3: CIKR (Critical Infrastructure and Key Resources)

Severity Rating or Risk Index:

Develop a risk index for each hazard and assign a value to each characteristic. Use the following values:

- 1 Catastrophic
- 2 Critical
- 3 Limited
- 4 Negligible

The rating for each of the following hazard data:

- i. Magnitude
- ii. Frequency
- iii. Speed of onset
- iv. Community Impact

One needs to average the value of all factors to determine the overall risk. The result of this process will be a list of hazards that pose the greatest threat to the district. The planning team should prepare plan for each hazard for which the risk index exceeds a predetermined threshold.

Severity 1	Expected Impact 2
Catastrophic	Multiple deaths Complete shutdown of Critical Facilities (CF) for thirty days or more
Critical	Injured or illness resulting into permanent disability Complete shutdown of CF for at least two weeks More than 25% of property severely damaged
Limited	Injured or illness do not result into permanent disability Complete shutdown of Critical Infrastructure (CI) for at least one week More than 10% of the property severely damaged

Negligible	Injured or illness treated with the first aid Minor quality of life lost Shut down of critical facility for two hours or less Less than 10% of the property severely damaged
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Table -3: Risk Indexing (Parameters indicated under each category are based on the Global best practices which may vary from country to country)

Fill-in the hazard analysis work sheet given below

S.No	Hazard	Check if community is prone to the hazard	Historical Data					
			(1)	(2)	(3)			
					Years of Occurrence	Frequency / Return Period	Category / Intensity	Duration
					(a)	(b)	(c)	(d)
1.	Earthquake							
2.	Tsunami							
3.	Flood							
4.	Storm / Cyclone							
5.	Landslide							
6.	Drought							
7.	Accident (S)							
8.	Fire							
9.	Others							

Table 4: Hazard Analysis – Historical data

S.No	Hazard	Historical Data										
		Yr. of Occurrence	Number of Affected Deaths	Number of Affected families	House		School Buildings		Hospitals		Roads	Agriculture
					Number	Economic Damage	Number	Economic Damage	Number	Economic Damage		
(1)	(2)	(3)	(4)	(5)		(6)		(7)		(8)	(9)	
1.	Earthquake											
2.	Tsunami											
3.	Flood											

4.	Storm / Cyclone											
5.	Landslide											
6.	Draught											
7.	Fire											
8.	Other											

Table 5: Vulnerability Analysis – Historical Data

Based on the review and analysis of inputs/data collected in tables given above, the most important disaster risk with reference to the lowest administrative unit in the district needs to be identified. After answering the questions in Col 1, 2 and 3, recommendations on the mitigation measures can be listed under col 4 of the table given below.

S.No.	Vulnerability Analysis	Answers
1	2	3
1	Result of hazard Analysis	
	What single or multiple hazards is the community faced with? Which are most significant? Referring to occurrence, frequency/return period, intensity and duration as well as exposure of affected families, how do these hazards compare?	
	Is there evidence of changing trends in the hazards, or new hazards emerging?	
2	Results of Vulnerability Analysis	
	What are the top five vulnerability of the community?	
	Explain the vulnerabilities in relation to the identified hazards affecting the community, and how these make the community susceptible to those hazards.	
3	Results of Capacity Analysis	
	What are the top five capacities available in the community?	
	Explain their relationship and how they increase the resilience of the community.	
	Identify the top five weakness and discuss them as part of another paragraph under vulnerabilities.	
4	Recommendations to Mitigate. Prepare for. and Respond to Disaster Impacts	
	Given the Hazard Vulnerability Capacity Assessments identify the most pressing assistance needed to reduce the vulnerabilities and increase the capacities of the community.	

Table 6: Risk Assessment Results

S.No.	Severity of Consequence	Likelihood of Occurrence			
1	2	3			
		Frequent	Likely	Occasional / Possible	Unlikely
		(a)	(b)	(c)	(d)
1	Catastrophic	Highest Priority			
2	Critical / Serious				
3	Limited				
4	Negligible				

CHAPTER 3: INSTITUTIONAL ARRANGEMENTS FOR DM

The Disaster Management Act 2005 provides for an effective institutional mechanism for drawing up and monitoring implementation of disaster management plan for prevention and mitigating effects of disasters and for taking a holistic, coordinated and prompt response to any disaster situation. Under Section 78 of the DM Act 2005, powers are conferred to the State Government for making rules to carry out the provisions of this Act and notify such rules in the official gazette.

The institutional mechanism for disaster management at the district level, as envisaged in the national plan and other national guidelines, is as given below -

1. District Disaster Management Authority
2. District Disaster Management Advisory Committee
3. Local Self Government
4. District EOC

DISTRICT DISASTER MANAGEMENT AUTHORITY (DDMA)

Section 25 of DM Act 2005 & National Policy on DM 2009 – mandates establishment of DDMA for every district and provides its composition. DDMA will be headed by the respective District Magistrate/District Collector (DC)/Deputy Commissioner as the case may be, with the elected representative of the Local Authority as the Co-Chairperson ex officio. DDMA will act as the planning, coordinating and implementing body for DM at District level and take all necessary measures for the purposes of DM in accordance with the Guidelines laid down by the NDMA and SDMA. It will, inter alia, prepare the District DM plan for the District and monitor the implementation of the National Policy, the State Policy, the National Plan and the State Plan concerning its District.

The DDMA will also ensure that the Guidelines for prevention, mitigation, preparedness and response measures laid down by NDMA and SDMA are followed by all Departments of the State Government, at the District level and the Local Authorities in the District

District Disaster Management Advisory Committee

Section 28 of DM Act 2005 empowers DDMA to constitute a committee or sub committees and also enables it to make payment of allowances to any person associated as an expert with these committees. An expert committee can also be constituted to assist DDMA.

LOCAL SELF GOVERNMENT AUTHORITIES:

Local Authorities would include Panchayati Raj Institutions (PRIs), Municipal bodies, District and Cantonment Boards and Town Planning Authorities, which control and manage civic services. These bodies will prepare DM Plans in consonance with the Guidelines of NDMA, SDMAs and DDMA and will ensure capacity building of their officers and employees for managing disasters, carry out relief, rehabilitation and reconstruction activities in the affected areas.

DISTRICT EMERGENCY OPERATIONS CENTRE (DEOC):

The DEOC will be the hub of activity in a disaster situation in the district. This is, however, not to underestimate its normal time activities. The EOC should have the flexibility to expand when demand increases and contract when the situation comes to normal. The DEOC is connected with State EOC in the upstream (which further connects to National EOC) and other EOC(s) in the downstream including other field offices during emergencies.

PLANNING CONSIDERATION:

Disaster Management Planning includes the key areas involved in addressing any threat or hazard: prevention, mitigation, response and recovery.

PUBLIC PRIVATE PARTNERSHIPS:

Development activities involve both private and public enterprises. To mitigate disasters and create better prepared society for disasters and other hazards, strong public-private coordination is critical. In order to achieve community resilience and preparedness, public and private owners of critical infrastructures and key resources like manpower, technical expertise & equipment need to work together, before, during and after a disaster. The key issue is to recognize and embrace the public-private interfaces that can improve the ability of a community to manage the response and recovery phases of disaster management. DDMP should spell out clear role and responsibilities of both Public and Private Sector and Private sector must be involved closely into community development and organisation of mock drills etc. A resource inventory be maintained indicating the capabilities in terms of human, equipment and infrastructure both in public and private sector.

CHAPTER 4: PREVENTION AND MITIGATION MEASURES

Prevention consists of actions that reduce risk from natural or manmade disaster incidents. It is required to list and elaborate all types of measures (**like - building codes, floodplain management, storm water management, coastal area zoning and management plan, etc.**) – planned and implemented by the districts as a part of prevention measures.

It is good to have long term mitigation goals in place and connect these goals with measures that district has planned and implemented. These goals may include (but not limited to):

1. Provide better early warning methods for flood, storms, cyclone
2. Reduce the destruction and loss of life within buildings
3. Provide for safer environments for transportation systems
4. Eliminate flooding in populated areas
5. Ensure redundant water supply systems
6. Reduce environmental degradation and restoration of livelihood
7. Reduce effects of the natural environment on the infrastructure
8. Ensure redundant power systems on critical facilities
9. Ensure adequate materials available for road maintenance

Protection reduces or eliminates a threat to people, property and the environment. Primarily focused on adversarial incidents, the protection of Critical Infrastructure and Key Resources (CIKR) is vital to local districts, national security, public health & safety and economic vitality. **Protection includes** actions or measures taken to cover or shield assets from exposure, injury or destruction. Protective actions may occur before, during or after an incident and prevent, minimize or contain the impact of an incident.

Mitigation, with its focus on the impact of a hazard, encompasses the structural and non-structural approaches taken to eliminate or limit a hazard's exposure; impact on people, property and the environment. Besides flood proofing, river desiltation, change in land use pattern and shelter belt plantation, examples of mitigation activities also include:

1. **Town Planning Act:** Planning, adopting and enforcing stringent building codes, flood-proofing requirements, seismic design standards and cyclone wind-bracing requirements for new construction or repairing existing buildings.
2. **Zoning Regulations:** Planning and adopting zoning ordinances that steer development away from areas subject to flooding, storm surge or coastal erosion.
3. **Development Control Regulations:** Incorporate the disaster management concerns into development. This should include all Government Sponsored Developmental Programs and Schemes.
4. **Undertaking retrofitting** work on public buildings to withstand ground shaking or cyclone-strength winds.

5. Specificity of disaster:
 - 5.1 Cyclone: In areas prone to cyclones, critical infrastructure, school and other community buildings to be built at elevated places. Keep trees and shrubs trimmed. Remove damaged and decayed parts of trees to make them resist wind and reduce the potential for damage. Removal of hoardings before specified period of cyclone.
6. **Land use regulation:** Planning and building **community shelters** and cyclone safe rooms to help protect people in their homes, public buildings and schools in hurricane and tornado-prone areas.
7. **Safety norms for economic and social infrastructures including places of worships and crowd management:** Steps taken for developing and implementing public safety norms for critical infrastructures and places of worships.
8. **Capacity Building for Mitigation:** Steps taken for human resource development and capacity building for effective disaster mitigation at District Level.
9. **Awareness generation** on disaster mitigation.
10. **DRR in all developmental activities.**

CHAPTER 5: PREPAREDNESS MEASURES

Planning is the one of the key elements in the Preparedness cycle. Preparedness cycle illustrates the way the plans are continuously evaluated and improved through a round of planning, organizing, training, equipping, exercising, evaluating and taking corrective actions.

1. **IRT:** As per NDMA's IRS guidelines which prescribe Incident Response Team (IRT) at District, Sub-Division, Tehsil and Block level should be constituted under the written directives of District Magistrate (DM). These teams will include experienced officers / employees at all levels and respond to all natural and man-made disasters. The lowest administrative unit (Sub-Division, Tehsil or Block) will be the first responder as the case may be. IRT at all levels will have same structure, i.e. IC supported with Operation, Planning and Logistic sections. The IRTs are to be pre-designated at all levels.
2. **District Emergency Operations Centre (DEOC):** District Emergency Operations Centre becomes a nodal point for overall coordination of planning and response. Its main duty is to ensure that the EOC facility has required communication (connecting all stakeholders vertically and horizontally), Decision support system, alert and warning system in working conditions.

EOC SOP

1. Emergency numbers existing for Police, Fire and Medical support etc. are linked to the EOC for response, command and control under an SOP. For e.g., if there is any fire incident, the information should not only reach the fire station but also the EOC and the nearest hospital to gear up the emergency medical service.
2. NGOs carry out their activities in an equitable and non-discriminatory manner. Set up wherever possible an NGO Coordination Centre.
3. Ensure that telephone directory of all ESF is prepared and available with EOC and members of IRTs.
4. Ensure that adequate exercises are conducted for testing the plan and gaps analyzed.
5. Outline plan to receive support from State and Central Government in a major disaster (e.g. helipads, evacuation, food distribution, medical support).

CHAPTER 6: CAPACITY BUILDING AND TRAINING MEASURES

Developing a DDMP without building capacity or raising awareness amongst stakeholders can be detrimental to the development of a successful and sustainable plan. Stakeholders and communities are critical components to a successful, long-term, sustainable disaster management plan. Capacity Building develops and strengthens skills, competencies and abilities of both Government and non-government officials and communities to achieve their desired results during and after disasters, as well as preventing hazardous events from becoming disasters.

When undertaking disaster management planning assessments, it is important that the indigenous traditions, methods and materials being used for disaster management locally are considered and incorporated appropriately. Local residents are likely to be the first emergency responders to such incidents, particularly in remote areas and, therefore, critical to the successful outcome.

Developing institutional capacity is very important. At the same time, by making the local community part of the process and solution would help in ensuring that disaster mitigation measures are more likely to be implemented and maintained over time. The capacity building plan should cater to the ‘differential capacity building needs’ based on the functional responsibilities assigned to stakeholders (refer table 8 giving sample of functions). It should address -

1. Institutional capacity building
 - i. Officials / policy makers
 - ii. Engineers, Architects, Masons, Doctors, Nurses, Teachers and other professionals
 - iii. State Police, Fire Services, State Disaster Response Force
2. Community capacity building and Community Based Disaster Management which should also focus on vulnerable groups – women, children, aged persons and persons with various kinds of disabilities.
3. Knowledge Management, networking and sharing
 - i. Community registries to collate basic contact information for persons with disabilities
4. Training of Trainers
 - i. Civil Defense/Home Guards/Volunteers
5. Disaster Management Education
 - i. Schools
 - ii. Colleges: medical, Engineering
6. Skill up gradation and follow up training programmes
7. Inventory of trained professionals, engineers, architects and masons, medical Professionals, rescue specialists etc.

Strengthening and capacity building of DM Institutions (SDMA and DDMA) should be the first priority towards DM capacity building in the State. Training module, commensurate with the State / District specific requirements, should be designed and

implemented in consultation with NIDM/NDMA. Capacity building requirement at all levels in institutional hierarchy as well as society should be addressed adequately.

Training and capacity building program should be integrated with the monitoring and evaluation system for effective revision of the program.

CHAPTER 7: RESPONSE AND RELIEF MEASURES

Response planning provides rapid and disciplined incident assessment to ensure a quickly scalable, adaptable and flexible response. It incorporates National and State response doctrine, which defines basic roles and responsibilities for incident response across all levels of government and the private sector.

Before taking up response activities, the DM (RO/IC as per IRS) will hold a meeting to take stock of the situation, availability and mobilization of resources for listing out the various tasks and to provide proper briefing to the responders. The Incident Action Plan will be drawn and put into action based on the situation assessment. The DM / RO will nominate Operation Section Commander (OSC) based on “incident type” and rest will follow as per IRS/IRT and other procedural guidelines issued by the state.

PLAN ACTIVATION:

The disaster response structure will be activated, on the receipt of disaster warning or on the occurrence of the disaster, with approval from the competent authority. The occurrence of disaster may be reported by the concerned monitoring authority to the Commissioner of Relief / SDMA by the fastest means. The Commissioner of Relief (CoR) will activate all departments for emergency response including the State EOC, District EOC and ERCs. Also, they will issue instructions to include the following details:

Exact quantum of resources (in terms of manpower, equipment and essential items from key departments/stakeholders) that is required.

- The type of assistance to be provided
- The time limit within which assistance is needed
- Details of other Task/Response Forces through which coordination should take place

The State EOC and other control rooms at the State level as well as district control rooms should be activated with full strength. The State Government may publish a notification in the official gazette declaring such areas to be disaster-affected area under applicable Act / Rule etc. Once the situation is totally controlled and normalcy is restored, the Commissioner of Relief declares end of Emergency Response and issues instructions to withdraw the staff deployed in emergency duties.

S.No.	Emergency Management Functions / Tasks	Function / Task Lead	Support function officer / agencies
1	2	3	4
1	Direction, Control, Coordination	DM	DDO, SP, Resident Dy. Collector and Tahshildar
2	Information Collection, Analysis and Damage survey	DM	DDO, SP, Resident Dy. Collector (RDC), Tahshildar, DIC, Dy. DDO, Ex. Engr., R&B, DAO

3	Communication	RDC	Dy. Tahshildar, Mobile Operators, TV, Radio, Police, Forests, Fire
4	Alert and Warning	RDC / SP	EOC / Disaster Tahshildar, District Information Officer (DIO)
5	Transport (ESF, Evacuation, relief supply)	RTO/DTO	RDC, DDO, DSO, SP, DMHO
6	SAR (Search and Rescue)	SP / Civil defense/SDRF/NDRF	Fire, civil defense, Home Guards & SDRF (when magnitude of any disaster would beyond coping capabilities of these response agencies; NDRF may be requisitioned for search & rescue operations.)
7	Emergency Public Information	DIO	EOC/Police/Transport/Forest
8	Law and Order / Public Protection	SP	Dy. SP, Home Guards Commandant, NGOs, Para-military and Armed Forces
9	Public Works	Ex. Engr. R&B	Irrigation, Ex. Engr., Panchayat, NGOs, Water Supply Board, Municipalities, Home Guards, Police
10	Mass Care/Emergency Assistance / Shelters	Dist. Primary Education Officer	School Principal, Teachers, Health, PHC, State Transport, Water Supply, RTO, Tahshildar, TDO
11	Health and Medical Services, psycho social care	Chief District Health Officer (CDHO)	Supt. Govt. Hospital, Municipality, PHCs, CHCS, Red Cross, Fire Brigade, Civil Defense, R&B, NGOs, Doctors, TDO, Tahshildar
12	Animal Health & Welfare	Dy. Director Animal Husbandry	Veterinary Inspector, NGOs
13	Water Supply and Sanitation	Ex. Eng. Water Works	Dy. Ex. Engr., Talati, Tahshildar, TDO, Health, Dy. Engineer
14	Power	Supt. Engr. Electricity board	Ex. Engr., Dy. Engr. Technical, EB, Transport

15	Resource Management (Including food and relief supplies and other logistic support)	DDO	RTO, DSO, Private & Public sector, Municipal Water Supply Board, Tahshildar, Dist. Supply Tahshildar
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Table 8: Typical Example of - District level Functional Responsibilities during Emergency Response (Indicative)

Response plan is to develop and analyse courses of actions. This is important that while in the process of generating solutions, aspects of **scenario-based, functional and capabilities-based planning are combined**. Typically, such a process follows these steps:

1. **Establish the timeline.** Cover all mission areas in the timeline and typically use the speed of incident onset to establish the timeline. The timeline may also change by phases and the type of hazard. For example, a cyclone’s speed of onset is typically days, while a major chemical incident’s speed of onset is minutes. The timeline for a cyclone might be in hours and days, particularly during the pre and post-impact phases.

Placement of decision points and response actions on the timeline depicts how soon the different entities enter the plan. Timeline and Responsibility matrix will be a part of Standard Operating Procedure (SoP) to be drawn and annexed for each hazard relevant to district.

2. Identify and depict decision points. Decision points indicate the place in time, as incidents unfold, when leaders anticipate making decisions about a course of action. They indicate where and when decisions are required to provide the best chance of achieving an intermediate objective or response goal (i.e. the desired end-state). They also help planners determine how much time is available or needed to complete a sequence of actions.
3. Identify and depict operational tasks. For each operational task depicted, some basic information is needed.
 - i. What is the action?
 - ii. Who is responsible for the action?
 - iii. When should the action take place?
 - iv. How long should the action take and how much time is actually available?
 - v. What has to happen before?
 - vi. What happens after?
 - vii. What resources does the person/entity performing the action need?
4. Select courses of action. Planners must compare the costs and benefits of each proposed course of action against the mission, goals and objectives. Based on this comparison, planners then select the preferred courses of action to move forward in the planning process. To the extent possible and appropriate, senior officials should approve course of action decisions during plan development.

5. Identify resources. Initially, the planning team identifies resources needed to accomplish operational tasks in an unlimited manner. Once the planning team identifies all the requirements, they begin matching available resources to requirements. The EOP should account for unsolvable resource shortfalls so that they are not just “assumed away.”
6. Identify information needs. Planners identify a “list” of the information needs for each of the response participants, including the time they need it, to derive decisions and trigger critical actions.
7. Assess progress. This process should be periodically “frozen” so the planning team can:
 - i. Identify progress made towards the end-state
 - ii. Identify goals and objectives met and new needs or demands
 - iii. Identify “single point failures” (i.e., tasks that, if not completed, would cause the operation to fall apart)
 - iv. Check for omissions or gaps
 - v. Check for inconsistencies in organizational relationships.

The planning team should work through this process by using tools that help members visualize operational flow.

8. Hazard, Threat or Incident Specific SOP /Annexes

The contents of hazard, threat or incident specific annexes focus on the special planning needs generated by the subject hazard. These annexes contain unique and regulatory response details that apply to a single hazard.

9. Managing Crowds in public places

Recent incidents of stampedes in public places (including in places of worship) and conglomerations warrant special attention. An SOP for each of these events needs to be made.

10. Special Attention to marginalized section

Ensure that all relief personnel as well as persons dealing with emergencies on a day to day basis are sensitized and trained to cater to the needs of persons with disabilities women and children.

11. Out of box solutions to be explored depending upon protocol availability

These may include use of railway containers as shelters in cyclone prone areas. In areas where roads infrastructure or connectivity is likely to be affected, helipads to be planned.

CHAPTER 8: RECONSTRUCTION, REHABILITATION AND RECOVERY MEASURES

Recovery encompasses both short-term and long-term efforts for the rebuilding and revitalization of affected communities. Recovery planning must provide for a near-seamless transition from response activities to short-term recovery operations—including restoration of interrupted utility services, re-establishment of transportation routes and the provision of food and shelter to displaced persons. Planners should design long-term recovery plans to maximize results through the efficient use of resources and incorporate national recovery doctrine.

Following should form a part of this section: -

1. Damage assessment mechanism
2. Restoration of basic infrastructure
Short term - Restoration of Basic Infrastructure including roads, bridges, drinking water supply, electricity, communication network and roads/ paths leading to the villages; Restoration/ Repair of the lifelines/critical buildings – repair/reconstruct the lifeline buildings /critical buildings which are necessary for treating the affected people or rehabilitation in these buildings as shelters.
3. Reconstruction and Repairs
4. Recovery program (both short and long term)

The nodal departments are to be assigned the responsibilities of reconstruction and restoration activities, perform these activities diligently and restore the minimum basic infrastructure in the area which is vital for sustaining human life in the area. These departments are PWD, Health & family welfare, Electricity Boards, Development authority, Roads and Buildings, water supply and sanitation departments.

CHAPTER 9: FINANCIAL RESOURCES FOR IMPLEMENTATION OF DDMP

District Disaster Response Funds and District Disaster Mitigation Funds are proposed to be created at the District Level as mandated by Section 48 of the DM Act. The disaster response funds at the district level would be used by the DDMA towards meeting expenses for emergency response, relief, rehabilitation in accordance with the guidelines and norms laid down by the Government of India and the State Government.

All State Government Departments, Boards, Corporations, PRIs and ULBs would prepare their DM plans, including the financial projections to support these plans. The necessary financial requirements would be made a part of their annual budgetary allocations and ongoing programmes and used for mitigation and preparedness measures. They will also identify mitigation projects and project them for funding in consultation with the SDMA/DDMAs to the appropriate funding agency. The guidelines issued by the NDMA vis-a-vis various disasters should be considered while preparing mitigation projects.

Other financing options for restoration of infrastructure / livelihoods. Like utilization of flexi fund within Central Sponsored Scheme for mitigation/restoration activities in the event of natural calamities in accordance with the broad objective of the Central Sector Scheme.

DDMA should also look at other options of new financial tools like catastrophe financing, risk insurance, micro-insurance etc. to compensate for massive losses on account of disasters.

Opportunities of CSR investments should also be explored and elaborated under this section by the DDMA for increasing district resilience.

CHAPTER 10: PROCEDURE AND METHODOLOGY FOR MONITORING, EVALUATION, UPDATION AND MAINTENANCE OF DDMP

Evaluating the effectiveness of plans involves a combination of training events, exercises etc. to determine whether the goals, objectives, decisions, actions and timing outlined in the plan will result in an effective response. Indicative guidelines for monitoring and evaluation of the plan are as given below:

1. Regularly review the implementation of the plan.
2. Check the efficacy of the plan after any major disaster/emergency in the district and see what did work and what did not work and make amendments to the plan accordingly.
3. As per Sub Section (4) of Section 31 of the Disaster Management Act, 2005, the plan would be reviewed and updated annually and the year in which the plan has been reviewed would be clearly mentioned in shape of header in each page of the plan.
4. Keep District, State and National Disaster Resource Inventory updated (SDRN / IDRN) and connected with the plan.
5. Update coordinates of responsible personnel and their roles / responsibility every six months or whenever a change happens. Names and contact details of the officers/officials who are the nodal officers or the in-charge of resources to be updated on regular basis.
6. Plan should be web enabled with access on intra and internet.
7. Plan should be circulated to all stakeholder departments, agencies and organisations so that they know their role and responsibilities and also prepare their own plans.
8. Regular Drills / exercises should be conducted to test the efficacy of the plan and check the level of preparedness of various departments and other stakeholders. It would ensure that all parties understand their roles and responsibilities clearly and understand the population size and needs of vulnerable groups.
9. Regular training and orientation of the officers/officials responsible to implement the plan should be done so that it becomes useful document to the district administration.
10. Army, NDRF, SDRF and other agencies should be integrated into the plan exercise regularly.
11. DDMA should hold Regular interaction and meetings with the Army or any other central government agencies for strengthening coordination during disasters.
12. The DEOC should be made responsible for keeping the plan in updated form and collecting, collating and processing the information.

CHAPTER 11: COORDINATION MECHANISM FOR IMPLEMENTATION OF DDMP

Dealing with a major disaster requires resources from outside the district. When the capacities of a district administration are overwhelmed, higher levels are called upon to assist. Likewise, assets and capabilities in the corporate and non-governmental sectors available around the district may be brought to bear.

There are many actions undertaken by participants in disaster management that support this goal, both pre-disaster (to forestall or reduce potential damage) and post-disaster (to recover from actual damage) and ideally these activities would reduce the potential effects of a disaster significantly. For achieving this objective, the plan should have a pre-established and practiced mechanism for Inter, intra and extra agency coordination.

Communication is the most important tool for effective coordination. Generally, Emergency Operation centre (EOC) is the enabler of communication and coordination. EOC communication and coordination plan (EoC-SoP) should specify procedures for interfacing with different stakeholders during all phases of emergency, as stated in the DDMP framework.

Pre-Disaster meetings to review the DDMP with all stakeholders should also be planned.

CHAPTER 12: STANDARD OPERATING PROCEDURES (SOPs) AND CHECK LIST

1. SOPs –

- 1.1 Standard Operating Procedures (SOPs)
- 1.2 Maps
- 1.3 Forms

Standard Operating procedures (SOPs)

Standard Operating Procedures (SOPs) are a common method of implementing instructions. SOPs provide response protocols for carrying out specific responsibilities. They describe who, what, when and how SOPs are appropriate for complex tasks requiring step-by-step instructions for performing a task. It is necessary to prepare and annex - SOPs for all relevant hazards to one's district – like – Earthquake, Flood, Cyclone, Landslide, Tsunami, Manmade disasters (CBRN, Stampede etc.) .

Hazard or incident specific annexes usually identify hazard specific risk areas and evacuation routes, specify provisions and protocols for warning the public and disseminating emergency public information and also specify the types of protective equipment and detection devices required by responders.

The annexes have work aids for items including maps, charts, tables, checklists, resource inventories and summaries of critical information. As indicated previously, hazard-specific annexes follow the basic plan's content organization. Hazard-specific operations information includes:

- I. Assessment and control of the hazard (natural and manmade including mass gathering at places of congregation).
- II. Identification of unique prevention and CIKR protection activities to be undertaken to address the hazard or threat, as appropriate
- III. Selection of protective actions
- IV. Conduct of public warning
- V. Implementation of protective actions
- VI. Implementation of short-term stabilization actions
- VII. Implementation of recovery actions.

Maps:

- I. Geographical boundaries and features
- II. District boundaries
- III. Locations of the key facilities
- IV. Transportation and evacuation routes

Forms:

Common forms used for implementing instructions as given in IRS guidelines may be included under this portion.

Example of implementation instruction – evacuation annex may be made clearer by attaching maps with evacuation routes marked. Similarly, location of shelters may be marked on maps supporting the mass care annex.

2. (i) Resource Management annexure – Give resource(s) list. Describes the means, organisation and process by which district will find, obtain and allocate resources to satisfy needs that are generated during different phases of disaster cycle. The list will also include resources (equipment and personnel) for fire response.

(ii) This annexure will also include list of contact / access numbers of all important resources (including man, material and machineries). The list of equipments, assets including human resources details/skill of persons etc of both public and private sector to be uploaded by the district authorities on the Indian Disaster Resources Network at the website www.idrn.gov.in.

(iii) Helipads / Runways:

Details of runways and helipads (non-classified) with geo-coordinates, their status (operational/non-operational etc.) and specification should be incorporated into the resources list. Details of department/ministry holding information on runways / helipads falling under classified category should be reflected in the resource management annexure.

(iv) On-Line Application:

Online application should be developed for mapping crucial real time information, reflecting exactly what is happening, what is most needed, and precisely where. Such applications should be integrated with the State portal and tested from time to time.

3. **Communication annex** – describes total communication system and how it will be used.

4. **Warning annex** – describes warning system in place and responsibilities and procedures for using them.

5. **Emergency Public information annex** – provides the procedures for giving public accurate, timely and useful information and instructions through the emergency period

6. **Evacuation annex** – describes the provisions that have been made to ensure the safety and orderly evacuation of people threatened by hazards that the district faces.

7. **The mass care annex** – deals with the actions that are to be taken to protect evacuees and other disaster victims from the effects of disasters including providing temporary shelters, food, medical care, clothing, drinking water and other essential needs.

8. **The health and medical annex-** describes policies and procedures for mobilising and managing health and medical services during all phases of disaster cycle.

9. **Mutual aid / partnerships with other agencies annex** – MoU with corporate sectors, telecom service providers, pharmaceutical industries, heavy machinery users / manufacturers, NGOs etc.

10. Damage assessment annex

In case of CIKR and the places of congregation the responsible owner/agency/organisation/trust would prepare on-site and off-site DM plan, as per the available guidelines, in consultation with DDMA.

SAMPLE / EXAMPLE

SOP for Earthquake (without warning situation)

Earthquakes can neither be predicted nor prevented. When an earthquake strikes, the district team must be ready to respond. To survive, the administration and neighbourhood community members should be prepared with 'survival plans'. Preparing for an earthquake takes time and effort. The basic approach should be: (a) Avoid injury to self and help others; (b) minimize damage to CIKR installations and property; (c) Be prepared to survive and function for at least 72 hours after an earthquake without help from external aid.

Special Hazards / Precautions:

1. Earthquake impact can cause damage to critical infrastructures including telecom, power transmission, water supply, gas or oil pipelines resulting in pipe rupture or blast from ignition of accumulated associated well gas and vaporization of crude oil pool.
2. Each agency must immediately shut down all operations and supply in pipeline / transmission lines as per their on-site emergency response plan.
3. Depending upon the intensity, <6 Magnitude evacuation may be required for both within the facility as well as for neighbouring community to assemble in designated open ground/ muster point.
4. Fire fighting, search and rescue teams to be kept in standby for any emergency rescue operations.
5. Emergency coordination team to monitor the situation.
6. Only after proper safety inspection, critical infrastructure facilities may be asked to resume their operation.

Emergency Response Resource Requirements:

- 1. Emergency Communication**
 - i. Sat phones for wide area communication
 - ii. Wireless for local area communication
- 2. Fire management services:**
 - i. Mobile fire protection system
- 3. Specialised resources (Pre-contracted under MoU)**
 - i. SAR
 - ii. Specialised equipment's for SAR
- 4. Manpower:**
 - i. Additional fire fighters / support personnel
- 5. Medical**
 - i. Ambulances
 - ii. Doctors
 - iii. Nurses
 - iv. Stretchers
 - v. Pharmacy supply / First aid kits
- 6. Law and Order**
 - i. Police

INCIDENT ACTION PLAN (IAP):

It is important that activities indicated in the IAP are connected with the functional responsibility matrix given under the plan activation section in basic plan.

S.No.	Task / Function / Activity	Department/ Officer Responsible	Time
1	2	3	4
1	Raise alarm		
2	The staff to follow ‘drop-cover-hold’ procedures and assemble at pre-designated safe muster points		
3	Emergency Alarm/Notification/ Notify Authorities & external agencies (Refer Emergency Contact in Appendix)		
4	Issue instructions to shut down all operations immediately on CIKR		
5	Assess situation, make evacuation plan and evacuation		
6	Activate special resources for SAR including JCBs, Earth-movers, Steel cutters		
7	Establish Unified Command (for liaison with responding agencies)		
8	Coordinate and mobilize specialized medical teams with mobile operation theatres		
9	Coordinate and mobilize transport and logistics		
10	Assess Hazards – potential for leakage and consequent explosion		
11	Cordon off the area – Establish “hazard zone” and secure area from unauthorized entry.		
	Community Evacuation Plan		
12	Trigger alarm/early warning siren and evacuate community to pre-designated open ground		
13	Ensure speedy coordination for evacuation		
14	Attend the injured with first aid and transport them to hospital		
15	Assure the people by sharing the real impact of incident and seek their cooperation		
16	Provide temporary shelter with water, food and sanitation facilities		
	Conduct damage assessment		
17	Only after thorough check-up and formal clearance, community can be permitted to return to their habitation		

SOP for Flood and Flash Flood (with warning situation)

Preparing for Flood/Flash Flood

Describe vulnerability of your district to flood / flash flood in couple of lines with impact assumptions.

Precautions:

1. Flooding can disrupt continuity of Governance and the life of the community
2. Flooding can lead to disruption in electrical supply and communication and cause damage to roads, bridges and other infrastructure.
3. Depending upon the level and quantum of water inundation evacuation required for community to move to safe zones.
4. Search and rescue teams to be kept in standby for any emergency rescue operations
5. Emergency coordination team to monitor the situation
6. Ensure that drainage channels / “*nalla*”s” are de-silted and bunds are periodically maintained.

Emergency Response Resources:

Specialist Resources

1. Search and rescue teams (divers/swimmers, Emergency Medical)
2. Specialized equipment- like boats, life jackets (helicopters), etc.

Manpower

1. Support Personnel

Medical Support

1. Ambulances (complete with emergency medication)
2. Doctors
3. Nurses
4. Stretcher Bearers
5. Oral Rehydration Satchets (ORS)

Law & Order Agencies

1. Police

Other Essentials

1. Water storage tanks
2. Chlorine tablets
3. Temporary shelters with sanitation facilities
4. Temporary common kitchen or food packets

Incident Action Plan (IAP)

It is important that activities indicated in the IAP are connected with the functional responsibility matrix given under the plan activation section in basic plan.

Task / Function / Activity 1	Department/ Officer Responsible 2	Time 3
Raise alarm / Mass messaging / Community siren system		
look out for regular updates from Indian Meteorological Department (IMD) and Central Water Commission (CWC) for forecast and follow up action.		
Alert all ESF to start working on their role		
Raise alarm if water level is reaching critical level of jeopardizing safety of infrastructure		
Assess situation, make evacuation plan and move community to safer zones		
Activate special resources <ul style="list-style-type: none"> • Search and rescue (divers/swimmers, boats, life jackets, searchlights, nylon ropes) • Specialized equipment (helicopters, sandbags, crowbars, spades, portable motor pumps) 		
Establish Unified Command (for liaison with responding agencies)		
Close / cordon flooded roads and areas from entry		
Assess situation hour to hour in close contact with IMD/CWC and other agencies		
Conduct damage assessment		
Only after thorough check-up and formal clearance, community can be permitted to return to their habitation		

(Note: The list is indicative and needs to be expanded)